

CLAIMS

What is claimed is:

- 5 1. An apparatus comprising: a means for affecting tissue, the tissue affecting means disposed within a first enclosure having a preferred shape; the first enclosure disposed within a second enclosure and thereby constrained to the shape of the second enclosure, the second enclosure being more rigid than the first enclosure; the first enclosure free to translate within the second enclosure, thereby extending from
10 the second enclosure to assume the preferred shape so as to move proximate a tissue surface.
2. The apparatus of claim 1 wherein the means for affecting tissue is at least one of a burr, a rotating guillotine, and a source of wave energy.
3. The apparatus of claim 1 wherein the first enclosure is a tube having a proximal end
15 portion and a distal end portion.
4. The apparatus of claim 1 wherein the second enclosure is a constraining sleeve.
5. The apparatus of claim 3 wherein the distal end portion of the tube is made of a superelastic memory metal alloy treated to assume the preferred shape after being deformed therefrom.
- 20 6. The apparatus of claim 1 in which the tissue affecting means is a burr positioned adjacent a port in the first enclosure, thereby exposing an effectively significant portion of the burr exterior the first enclosure.
7. The apparatus of claim 6 in which the effectively significant portion is at least 20% of the burr exterior the first enclosure.
- 25 8. The apparatus of claim 1 in which the tissue affecting means is a rotating guillotine blade positioned adjacent a port in the relatively flexible enclosure.
9. The apparatus of claim 2 in which the source of wave energy is enabled for producing wave energy of, at least one of: bipolar radio frequency energy, monopolar

radio frequency energy, incoherent light energy, focused ultrasound energy, microwave energy, and laser energy.

10. The apparatus of claim 5 in which the alloy contains about 55.8% of nickel and about 44.2% of titanium by weight.
- 5 11. The apparatus of claim 4 wherein the sleeve is an instrument channel of an endoscope.
12. The apparatus of claim 3 wherein the preferred shape of the tube encompasses a bend having a bend angle of at least 10°.
13. The apparatus of claim 3 wherein the distal end portion of the tube is heat-treated to
10 maintain a curve having a selected degree of curvature.
14. The apparatus of claim 4 wherein one of the proximal end portion and distal end portion of the tube provides exterior markings for indicating extension of the tube from the sleeve.
15. The apparatus of claim 4 wherein the tube is free to rotate within the sleeve.
- 15 16. The apparatus of claim 3 wherein the tube contains a gas for displacing liquids and vapors exterior the distal end of the tube.
17. A method for affecting tissue comprising the steps of: inserting a first member, having a tendency to assume a preferred shape at a distal end thereof, into a second member; inserting a tissue affecting means into the first member; extending the distal
20 end portion of the first member exterior the second member until the first member assumes the preferred shape thereby moving the tissue affecting means into proximity with a targeted tissue; and actuating the tissue affecting means so as to affect the targeted tissue selectively.
18. The method of claim 17 wherein the distal end is made of a superelastic memory
25 metal alloy heat treated to assume the preferred shape.
19. The method of claim 17 further comprising the step of engaging the targeted tissue with the tissue affecting means when the targeted tissue is at least one of bone, cartilage, disc annulus fibrosus, disc nucleus pulposa, tumor, ulcer, tonsil, prostate gland, and clotted blood.

20. The method of claim 17 further comprising the step of applying a vacuum to the proximal end of the relatively elastic member thereby drawing away debris created at the tissue affecting means.
- 5 21. The method of claim 17 further comprising the step of applying a vacuum to the proximal end of the relatively elastic member thereby drawing the targeted tissue through a port in the relatively elastic member and into contact with one of a rotating guillotine blade and a burr.
22. The method of claim 17 further comprising the steps of delivering a fluid into the first member; and moving the fluid to at least one of the tissue affecting means and
10 the targeted tissue.
23. The method of claim 17 further comprising the step of delivering an electrically conductive fluid into the first member thereby forming an electrically conductive field adjacent the targeted tissue.
24. The method of claim 17 further comprising the step of forming the first member as
15 an instrument channel of an endoscope.
25. The method of claim 17 further comprising the step of forming the tissue affecting means as at least one of a burr, a shaver, a cryogenic fluid source, a wave energy source, and a laser energy emitter.
26. The method of claim 17 wherein the selective tissue affecting is at least one of:
20 cutting, vaporizing, ablating, abrading, freezing, coagulating, shrinking and denaturing.
27. The method of claim 17 further comprising the steps of marking at least one of a proximal end and a distal end of the first member; and controlling extension of the distal end of the first member from the second member by the marking.
- 25 28. The method of claim 17 further comprising the step of delivering a gas into the first member; and displacing liquids therewith exterior to the distal end of the member.
29. An apparatus for predictable lateral deflection comprising: a tissue affecting means disposed within a tube of a shape-retentive material; a distal end portion of the tube assuming a curved shape when not otherwise constrained; the tube movable within a

constraining sleeve, the sleeve having a greater stiffness than the tube, wherein the distal end portion of the tube assumes the curved shape when extended from the sleeve.

- 5
30. The apparatus of claim 29 wherein at least the distal end portion of the tube is of a nickel-titanium alloy.
31. The apparatus of claim 29 wherein the tissue affecting means is at least one of a rotating burr, a moving guillotine blade, a radio frequency energy emitter, a microwave energy emitter, a focused ultrasound emitter; a source of cryogenic fluid, a source of incoherent light, and a laser energy emitter; and wherein the tissue
- 10
- affecting means is exposed for affecting tissue.
32. The apparatus of claim 30 wherein the nickel-titanium alloy contains about 55.8% of nickel and 44.2% of titanium by weight.
33. The apparatus of claim 29 wherein the distal end portion of the tube is heat treated to
- 15
- retain a selected curvature and radius.